

7. Public Lecture and Plenary Talks

Public Lecture	What Can Evolutionary Computation Do For You?
Speaker	Prof. Xin Yao
Time and Room	5:30PM -6:30PM, 11 June 2019, Soundings Theatre
Chair	Prof. Kay Chen Tan

Abstract: Evolutionary computation refers to the study of computational systems that use ideas and get inspirations from natural systems, especially biological systems. Its primary goal is to develop more robust, reliable and self-adaptive computational systems that help to tackle complex optimisation and learning problems in the real world, from routing a fleet of trucks in a dynamically changing road networks to scheduling a large team of software engineers to develop a complex software system, from calibrating engines of cars to design artificial neural networks for pattern recognition and prediction. This talk tries to explain what evolutionary computation is, how it works and why it is interesting from both scientific research's point of view and practical application's point of view. Examples will be given throughout the talk to illustrate the potential benefits (and weakness) of evolutionary computation.

Bio: Prof. Xin Yao (M'91-SM'96-F'03) is a Chair Professor of Computer Science at the Southern University of Science and Technology, Shenzhen, China, and a Professor of Computer Science at the University of Birmingham, UK. He is an IEEE Fellow, and a Distinguished Lecturer of IEEE Computational Intelligence Society (CIS). His major research interests include evolutionary computation, ensemble learning, and their applications in software engineering. He has been working on multi-objective optimisation since 2003, when he published a well-cited EMO'03 paper on many objective optimisation. His research won the 2001 IEEE Donald G. Fink Prize Paper Award, 2010, 2016, and 2017 IEEE Transactions on Evolutionary Computation. Outstanding Paper Awards, 2010 BT Gordon Radley Award for Best Author of Innovation (Finalist), 2011 IEEE Transactions on Neural Networks Outstanding Paper Award, and many other best paper awards. He received the prestigious Royal Society Wolfson Research Merit Award in 2012 and the IEEE CIS Evolutionary Computation Pioneer Award in 2013. He was the President (2014-15) of IEEE CIS, and the Editor-in-Chief (2003-08) of IEEE Transactions on Evolutionary Computation.

